

Information and documentation — Codes for written language conversion systems

Working Draft Standard

Warning for drafts

This document is not a CalConnect Standard. It is distributed for review and comment, and is subject to change without notice and may not be referred to as a Standard. Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

The Calendaring and Scheduling Consortium, Inc. 2022

:2022

© 2022 The Calendaring and Scheduling Consortium, Inc.

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from the address below.

The Calendaring and Scheduling Consortium, Inc.

4390 Chaffin Lane
McKinleyville
California 95519
United States of America

copyright@calconnect.org
www.calconnect.org

Contents

Foreword.....	iv
Introduction.....	v
1. Scope.....	1
2. Normative references.....	1
3. Terms and definitions.....	1
4. Conversion system codes.....	3
4.1. Structure of conversion system codes.....	3
4.2. Requirements for new conversion system codes.....	4
4.3. Deprecation of conversion system codes.....	5
4.4. User assigned conversion system codes.....	5
4.5. Capitalization of conversion system codes.....	5
4.6. Abbreviated conversion system codes.....	5
4.7. Examples of conversion system codes.....	5
5. Conversion system authority.....	6
5.1. General.....	6
5.2. Requirements.....	7
5.3. Registration.....	7
5.4. Conversion system authority identifiers.....	7
6. Data model and attributes.....	9
6.1. Common data model and attributes.....	9
6.2. System authority data model and attributes.....	10
6.3. Conversion system data model and attributes.....	11
Appendix A (normative) Registration Authority.....	14
A.1. Registration authority (ISO 24229/RA).....	14
A.2. Advisory group (ISO 24229/AG).....	14
A.3. Operations on the list of conversion system authorities and their identifiers.....	15
A.4. Operations on the list of written language conversion systems and their codes.....	16
A.5. Reservation of code elements.....	16
A.6. Advice regarding use of code elements.....	17
Bibliography.....	18

:2022

Foreword

The Calendaring and Scheduling Consortium (“CalConnect”) is a global non-profit organization with the aim to facilitate interoperability of collaborative technologies and tools through open standards.

CalConnect works closely with international and regional partners, of which the full list is available on our website (<https://www.calconnect.org/about/liaisons-and-relationships>).

The procedures used to develop this document and those intended for its further maintenance are described in the CalConnect Directives.

In particular the different approval criteria needed for the different types of CalConnect documents should be noted. This document was drafted in accordance with the editorial rules of the CalConnect Directives.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CalConnect shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be provided in the Introduction.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

This document was prepared by Technical Committee *LOCALIZATION*.

Introduction

A number of international applications require the identification of written language conversion systems, including for terminology, lexicography, bibliography, and linguistics, especially for reverse transliteration, computational linguistics and machine pronunciation.

This document sets out the necessary procedures to maintain the registry of written language conversion systems.

The chosen term “written language conversion” is intended to refer to all types of conversions, i.e. transformations of written texts from one spelling system to another. It thus includes both script conversion (change of script: transliteration, transcription) and conversion of texts without changing the script (e.g. transcription of foreign names or words using the alphabet of a target language, change of the orthography in a language, etc.). For the sake of compactness of expression, “written language conversion” has been shortened to “conversion” in this document where it does not cause ambiguity.

Information and documentation — Codes for written language conversion systems

1. Scope

This document provides principles for establishing codes for the representation of written language conversion systems.

The codes are devised for usage in any application requiring the expression of written language conversion systems, including transliteration and romanization systems, in coded form.

2. Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 639-2, International Organization for Standardization. *Codes for the representation of names of languages — Part 2: Alpha-3 code*. First edition. Geneva. <https://www.iso.org/standard/4767.html>.

ISO 639-3, International Organization for Standardization. *Codes for the representation of names of languages — Part 3: Alpha-3 code for comprehensive coverage of languages*. First edition. Geneva. <https://www.iso.org/standard/39534.html>.

ISO 639-5, International Organization for Standardization. *Codes for the representation of names of languages — Part 5: Alpha-3 code for language families and groups*. First edition. Geneva. <https://www.iso.org/standard/39536.html>.

ISO 3166-1, International Organization for Standardization. *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*. Fourth edition. Geneva. <https://www.iso.org/standard/72482.html>.

ISO 5127, International Organization for Standardization. *Information and documentation — Foundation and vocabulary*. Second edition. Geneva. <https://www.iso.org/standard/59743.html>.

ISO 8601 (all parts), International Organization for Standardization. *Date and time – Representations for information interchange*. First edition. 2019. Geneva. <https://www.iso.org/standard/70907.html>.

ISO 15924, International Organization for Standardization. *Information and documentation — Codes for the representation of names of scripts*. Second edition. Geneva. <https://www.iso.org/standard/81905.html>.

3. Terms and definitions

For the purposes of this document, the terms and definitions given in [ISO 5127](#) and the following apply.

3.1. script

particular graphic representation or class of representations of a set of characters used to write one or more languages

[SOURCE: [ISO 5127, Clause 3.1.6.02](#)]

3.2. spelling system

set of rules governing the orthography of a language

:2022

Note 1 to entry: Typically, a spelling system defines how the spoken form of a language is represented in writing. Several languages have undergone orthographic reforms which means they have had different spelling systems.

3.3. natural language

language which is or was in active use in a community of people, and the rules of which are mainly deduced from the usage

[SOURCE: [ISO 5127, Clause 3.1.5.02](#)]

3.4. character

member of a set of elements that is used for the representation, organization, or control of data

[SOURCE: [ISO 5127, Clause 3.1.4.02](#)]

3.5. written language

natural language ([Clause 3.3](#)) realized through the writing of *characters* ([Clause 3.4](#))

[SOURCE: [ISO 5127, Clause 3.1.5.04](#)]

3.6. written language conversion

process whereby one *spelling system* ([Clause 3.2](#)) is converted into another spelling system

Note 1 to entry: This is a general term that includes script conversion but also, e.g., cases when a language changes its orthography without changing the script.

3.7. transliteration

process which consists of representing the characters of an alphabetical or syllabic system of writing by the characters of a conversion alphabet

3.8. transcription

process whereby the sounds of a given language are noted by the system of signs of a conversion language

3.9. romanization

script conversion from non-Roman to Roman {Latn} by means of *transliteration* ([Clause 3.7](#)), *transcription* ([Clause 3.8](#)) or both

[SOURCE: [ISO 5127, Clause 3.1.6.14](#)]

3.10. written language conversion system

set of rules for *written language conversion* ([Clause 3.6](#))

3.11. language code

combination of characters used to represent the name of a *language* ([ISO 5127, Clause 3.1.5.01](#)) or languages

[SOURCE: [ISO 5127, Clause 3.2.5.14](#)]

3.12. script code

combination of characters used to represent the name of a {Latn}

[SOURCE: [ISO 15924, Clause 3.8](#)]

3.13. conversion system code

combination of characters used in a structured way to represent a *written language conversion system* ([Clause 3.10](#))

4. Conversion system codes

4.1. Structure of conversion system codes

4.1.1. General

A conversion system code shall consist of four segments:

- titular segment;
- source spelling system segment;
- target spelling system segment;
- identifying segment.

Each segment SHALL consist of one or more elements.

4.1.2. Construction of the conversion system code

The following rules are to be adhered to for the construction of a conversion system code:

- The codes shall consist of elements from the following Unicode ranges:
 - DIGIT ZERO through DIGIT NINE (U+0030 — U+0039)
 - LATIN CAPITAL LETTER A through LATIN CAPITAL LETTER Z (U+0041 — U+005A)
 - LATIN SMALL LETTER A through LATIN SMALL LETTER Z (U+0061 — U+007A)
- Segments shall be separated by a single “COLON” (“:”, Unicode U+003A).
- Elements within a segment shall be separated by a single “HYPHEN-MINUS” (“-”, Unicode U+002D).
- “HYPHEN-MINUS” (“-”, Unicode U+002D) within an element (e.g. 233-3) will also be accepted.
- Other characters in the elements not covered by the above should be omitted or substituted.

4.1.3. Titular segment

This part will contain a reference to the conversion system authority or authorities by using identifiers, the list of which is maintained by ISO 24229/RA ([Appendix A.1](#)). If an authority cannot be identified but the conversion system has a national character and/or is used by the government, the 2-letter country code from [ISO 3166-1](#) should be used as the conversion system authority. If no conversion system authorities can be identified or its identification is not relevant, “Var” (varia) is used as the titular segment. See [Clause 5](#) for more details.

4.1.4. Source spelling system segment

Except as specified in [Clause 4.6](#), a script code is a mandatory element. Language-specific spelling systems have also language codes. In order to cover more specific needs the following four elements in the order given shall be used:

:2022

- language code (3-letter code from [ISO 639-2](#) or [ISO 639-3](#) with preference to terminological codes. If a synonym is used from ISO 639-2, the ISO 639-2/T associated code should be used. ISO 639-2/T codes are intended to be used for terminology applications.);
- script code (4-letter code from [ISO 15924](#));
- country code (2-letter code from [ISO 3166-1](#));
- spelling system extension (an ad hoc string to refer to a non-default spelling system of a language, such as old orthography).

EXAMPLE 1

ind-Latn-pre1972 (Indonesian language using the pre-1972 orthography)

EXAMPLE 2

bos-Arab (Bosnian language using Arabic script)

EXAMPLE 3

uzb-Arab-AF (Uzbek language as used in Afghanistan)

4.1.5. Target spelling system segment

This part may have the same four elements as listed in [Clause 4.1.4](#).

4.1.6. Identifying segment

This part will serve to distinguish by version, year of issue, etc. conversion systems that otherwise have the same scope. It may also contain elements necessary for the recognition of the system itself if the system has some kind of identification element. All in all, the following elements may occur (in the order given):

- identifying numbers, letters or else (such as standard number, e.g. 843)
- version number (e.g. v6, v4-1)
- year of adoption
- year of issue
- method identifier (if a standard devises more than one method of conversion, this optional ad hoc identifier could be used for distinction)

If there are cases when no elements can be used for this part, na (not applicable) will be the substitute.

EXAMPLE

2017 is the identifying segment of the system coded as UN:ara-Arab:Latn:2017.

4.2. Requirements for new conversion system codes

Additions to the list of conversion system codes shall be made on the basis of information from upon the request of a member of ISO 24229/AG ([Appendix A.2](#)) or the conversion system authority that manages this system.

The ISO 24229/AG will decide upon the addition, on the basis of the justification given for the actual requirements for international interchange. Code elements will be allocated accordingly.

A written language conversion system is eligible for a conversion system code assignment if it fulfils one of the following criteria.

- The system has been approved for official use at some level of government.

- The system has been developed and used by educational/scientific institutions, published in a peer reviewed scientific publication.
- The system has been in substantial usage.

Assigning of a conversion system code also requires demonstration of one of the following usage factors:

- necessity of identification of the system in interchange.
- necessity of identification of the system in data encoding.

NOTE Systems that are used in isolation or only for temporary usage do not need to have assigned codes.

4.3. Deprecation of conversion system codes

Deprecation of conversion system codes shall be made upon request of a member of ISO 24229/AG or the conversion system authority that manages the system.

The ISO 24229/AG will decide upon the marking of deprecation, on the basis of the information received. The corresponding code is reserved for backwards-compatibility.

NOTE Deprecation only applies to the code representation of the written languages conversion system, and not the system itself. For example, deprecation may be necessary when the authority undergoes a rename.

4.4. User assigned conversion system codes

If users need codes to represent conversion systems not included in the conversion system registry, the code prefix of zz can be used, which must be placed at the beginning of the conversion system code, in the titular segment, and followed by a “HYPHEN MINUS” character (“-”, Unicode U+002D).

NOTE Users are advised that the above series of codes are not universally used, those code elements are not compatible between different entities.

4.5. Capitalization of conversion system codes

Conversion system codes will use capitalization according to the relevant standards but this does not have any distinctive meaning. For example, an all lower case code will be an equally valid code.

4.6. Abbreviated conversion system codes

In case of user demand, abbreviated conversion system codes may additionally be registered whereby in identifying language-specific spelling systems script codes are omitted if they can be considered as default scripts for the languages concerned. Examples are given in [Clause 4.7](#). Sources, such as Common Locale Data Repository (CLDR) of the Unicode Consortium, should be consulted when determining default scripts for languages.

4.7. Examples of conversion system codes

The examples given here are only indicative and do not guarantee that such codes will be actually registered.

EXAMPLE 1

UN:ara-Arab:Latn:2017 (possible abbreviation — UN:ara:Latn:2017; United Nations system for the romanization of Arabic, approved 2017)

:2022

EXAMPLE 2

UN:mon-Mong-CN:Latn:1977 (possible abbreviation — UN:mon-CN:Latn:1977; United Nations system for the romanization of Mongolian in China, approved 1977)

EXAMPLE 3

BGN-PCGN:chn-Hans:Latn:1979 (BGN/PCGN 1979 Agreement — Romanization of Chinese)

EXAMPLE 4

ALA-LC:mal-Mlym:Latn:2012 (possible abbreviation — ALA-LC:mal:Latn:2012; ALA-LC romanization system that transliterates the Malayam language from Malayam script characters into Latin script)

EXAMPLE 5

ISO:Cyr1:Latn:9-1995 ([ISO 9:1995](#) for the transliteration into Latin of Cyrillic characters)

EXAMPLE 6

ICAO:Arab:Latn:2015 (ICAO rules for rendering Arabic-script names in Latin letters, issued in 2015)

EXAMPLE 7

DIN:bel-Cyr1:Latn:1460-1982 (possible abbreviation — DIN:bel:Latn:1460-1982; [DIN 1460:1982](#) for the transliteration of Belarusian into Latin)

EXAMPLE 8

ESKT:udm-Cyr1:est-Latn:2021 (possible abbreviation — ESKT:udm:est:2021; Estonian Language Committee's rules for rendering Udmurt names in Estonian texts, approved 2021)

EXAMPLE 9

LV:eng-Latn:lav-Latn:2006 (possible abbreviation — LV:eng:lav:2006; official instructions in Latvia on rendering English proper names in Latvian, issued in 2006)

Target spelling systems can also be language-specific. [Example 8](#) denotes a system to represent Udmurt names in Estonian texts using the Estonian alphabet, not Latin as a whole.

5. Conversion system authority

5.1. General

A conversion system authority is a competent authority that creates, publishes and/or manages written language conversion systems.

Authorities that are no longer competent will depend on ISO 24229/AG for managing codes, which will be considered on a case-by-case basis.

5.2. Requirements

5.2.1. General

A conversion system authority should:

- 1) have at least one written language conversion system eligible for a conversion system code;
- 2) be competent in managing its written language conversion systems ([Clause 5.2.4](#)).

5.2.2. Inactive authorities

If a conversion system authority does not meet requirements outlined in [Clause 5.2.1, 2](#)), it is considered “inactive”.

5.2.3. Varia authorities

The “Varia systems” (Var) conversion system authority is managed by ISO 24229/AG to represent written language conversion systems that:

- 1) have a need to be represented as determined by ISO 24229/AG;
- 2) yet do not have a clear extant authority.

5.2.4. Competency

A competent conversion system authority is a recognized institution that has standardized processes surrounding the management of the written language conversion systems, covering the following processes:

- 1) planning of written language conversion systems, including the process of designing and defining written language conversion systems; and
- 2) performing changes to written language conversion systems are well planned.

It is recommended for a competent conversion system authority to also establish standardized processes for the following:

- 1) public announcement and dissemination of its written language conversion systems; and
- 2) allows a public review period for people affected by written language conversion systems under its management prior to enactment.

5.3. Registration

The ISO 24229/AG is tasked with managing a list of conversion system authorities.

5.4. Conversion system authority identifiers

5.4.1. Principles for construction of identifiers

5.4.1.1. Relationship with names

The principle behind the alphabetic identifiers for conversion system authorities is a visual association between the conversion system authorities’ names and their corresponding identifiers.

In applying this principle, the identifiers will be generally assigned on the basis of the abbreviated names of the conversion system authorities, thus avoiding, wherever possible, any reflection of their political status.

5.4.1.2. Construction of the alphabetic identifier

The following rules shall be adhered to for the construction of the alphabetic identifier:

- The maximum length of the identifier shall be 16 characters.
- The identifier shall consist of elements from the following Unicode ranges:
 - DIGIT ZERO through DIGIT NINE (U+0030 — U+0039)
 - LATIN CAPITAL LETTER A through LATIN CAPITAL LETTER Z (U+0041 — U+005A)
 - LATIN SMALL LETTER A through LATIN SMALL LETTER Z (U+0061 — U+007A)
- The identifier elements shall be separated by a single HYPHEN-MINUS (U+002D).
- The minimal length of the identifier is 3 characters to encourage the creation of descriptive and distinguishable elements, with the exception of the following:
 - UN, for United Nations
- Identifiers with 2 characters shall be reserved for codes in [ISO 3166-1](#), each representing the administration authority of the particular jurisdiction.

5.4.1.3. Capitalization of conversion system authority identifiers

Conversion system authority identifiers will use capitalization like in ordinary abbreviations, but this does not have any distinctive meaning. For example, an all lower case identifier will be an equally valid identifier.

5.4.2. Examples of conversion system authority identifiers

The examples given here are only indicative.

EXAMPLE 1

ISO for International Organization for Standardization

EXAMPLE 2

BGN-PCGN for the United States Board on Geographic Names — Permanent Committee on Geographical Names for British Official Use

EXAMPLE 3

ALA-LC for American Library Association — Library of Congress

EXAMPLE 4

DIN for German Institute for Standardization

EXAMPLE 5

ICAO for International Civil Aviation Organization

EXAMPLE 6

UN for United Nations

6. Data model and attributes

6.1. Common data model and attributes

6.1.1. General

The data models in this clause shall be used by other data models specified in this document.

6.1.2. Data models

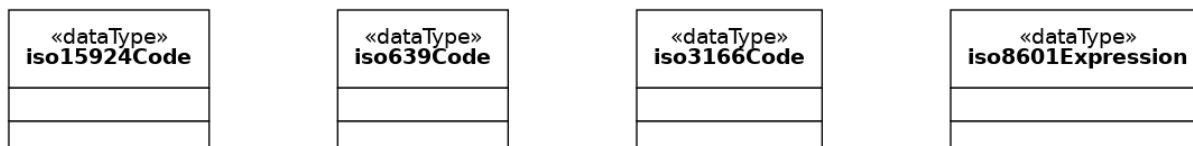


Figure 1

6.1.3. Usage of ISO 15924 code elements

iso15924Code represents code elements from [ISO 15924](#) for reference to scripts.

6.1.4. Usage of ISO 639 code elements

iso639Code represents code elements from [ISO 639-2](#), [ISO 639-3](#) and [ISO 639-5](#) for reference to languages.

6.1.5. Usage of ISO 3166 code elements

iso3166Code represents country codes from [ISO 3166-1](#).

6.1.6. Usage of ISO 8601 expressions

iso8601Expression represents datetime expressions that conform with [ISO 8601 \(all parts\)](#).

6.2. System authority data model and attributes

6.2.1. Diagram

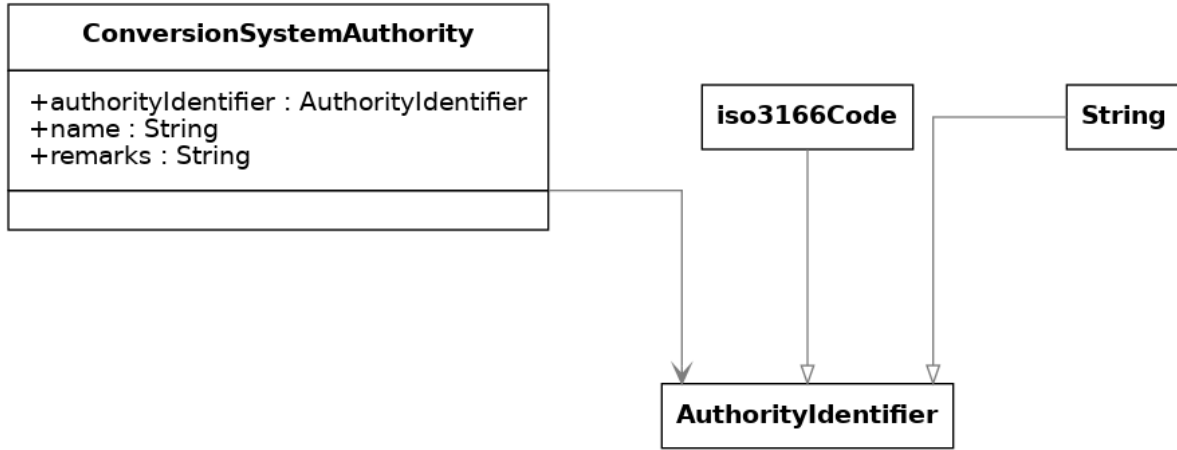


Figure 2

6.2.2. Conversion system authority

- authorityIdentifier** An identifier that represents the conversion system authority ([Clause 4.1.3](#)).
- name** The identifiable short name that uniquely identifies the conversion system authority.
- remarks** Any further notes.

6.2.3. Authority identifier

Either a 2-letter `iso3166Code`, or a `String` under the constraints of [Clause 5.4.1.2](#).

6.3. Conversion system data model and attributes

6.3.1. Diagram

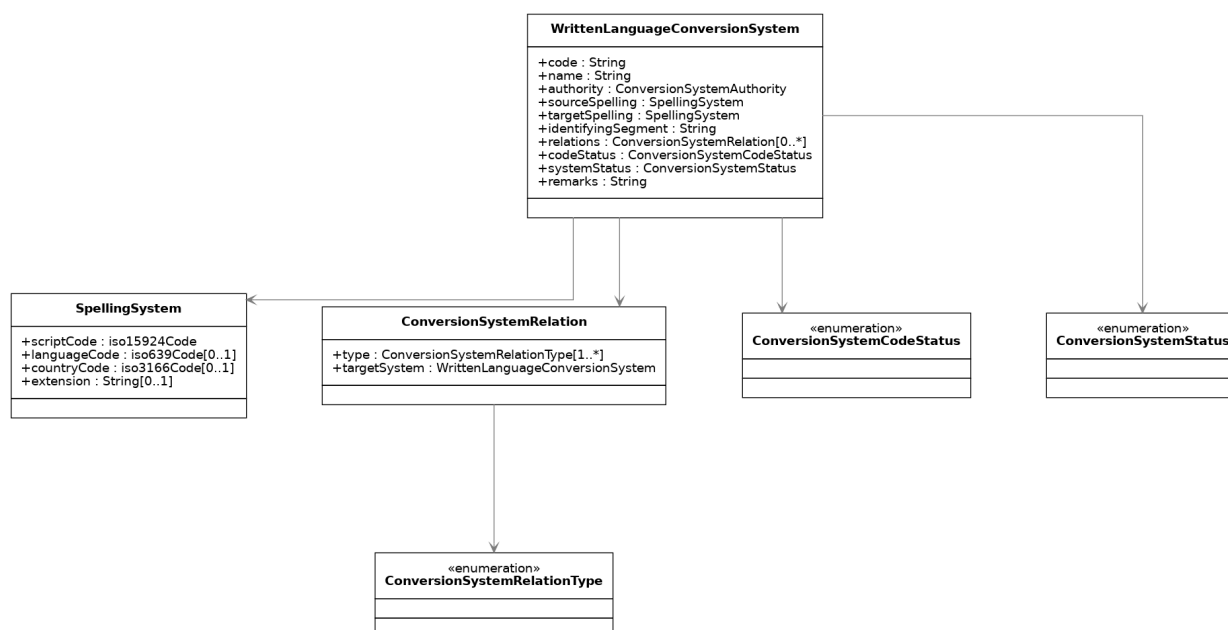


Figure 3

6.3.2. Written language conversion system

code	A code that identifies the written language conversion system.
name	A name that represents the written language conversion system.
authority	The conversion system authority under which this conversion system belongs.
sourceSpelling	The spelling system used in the source text.
targetSpelling	The spelling system used in the output text.
identifyingSegment	An identifier that distinguishes the written languages conversion system from others with the same conversion system authority and spelling scopes.
relations	Written language conversion systems can be related to other written language conversion systems in a number of ways. For example, a written language conversion system may represent an adoption or variant of another written language conversion system.

Hierarchical structures of written language conversion systems can be constructed by means of relationships.

This element is optional.

:2022

codeStatus	An optional code that identifies the current status of the conversion system code itself.
systemStatus	An optional code that identifies the current status of the written language conversion system itself.
remarks	Any further notes. The date of the adoption of the written language conversion system by the authority may be noted in the remarks. A typical use case is to show its original code from the original system from where this code has been imported.

EXAMPLE

NOTE: OGC 11-122r1 code urd_Arab2Latn_ODNI_2004

6.3.3. Spelling system

scriptCode shall be present. In the case of a language-specific spelling system, languageCode is also required.

languageCode	A 3-letter code from ISO 639-2 , ISO 639-3 and ISO 639-5 that identifies the source language being processed.
scriptCode	A 4-letter code from ISO 15924 that identifies the script of the spelling system.
countryCode	An optional 2-letter code from ISO 3166-1 that identifies the country associated with the spelling system.
extension	An optional ad hoc string to refer to a non-default spelling system of a language.

6.3.4. Conversion system relation

targetSystem	The conversion system of which this relation is a target.
type	One or more types of relation that the conversion system has with the target conversion system.

6.3.5. Conversion system code status

Examples of system code statuses:

preferred	The current system code is marked as “preferred”.
deprecated	The current system code is marked as “deprecated”. NOTE The deprecation marker in no way indicates deprecation of the system itself.

EXAMPLE

When a conversion system code has been renamed, maybe due to the renaming of the corresponding system authority, then

the old code can be considered “deprecated” in favour of the renamed code. The conversion system itself remains unchanged.

6.3.6. Conversion system status

Examples of system statuses:

former	The current system is marked as “former”.
current	The current system is marked as “current”.
inactive	The current system is marked as “inactive”.

EXAMPLE

When it has been deprecated of its own accord, it can be considered “inactive”.

6.3.7. Conversion system relation type

Examples of relation types:

basedOn	The current system is based on the target system. The conversion process inherits certain attributes from the target system.
---------	--

EXAMPLE 1

ALA-LC:jpn-Hrkt:Latn:1997 is based on Var:jpn-Hrkt:Latn:Hepburn-1886.

basisFor	The target system is based on the current system. It can be thought of as the inverse of basedOn.
----------	---

EXAMPLE 2

Var:jpn-Hrkt:Latn:Hepburn-1886 is the basis for ALA-LC:jpn-Hrkt:Latn:1997, BGN:jpn-Hrkt:Latn:1930, BGN-PCGN:jpn-Hrkt:Latn:1976 and BGN-PCGN:jpn-Hrkt:Latn:2017

aliasOf	The current system is an alias to the target system. The conversion processes are identical.
adoptedFrom	The current system is adopted from the target system. The conversion processes may not be identical.
supersedes	The current system supersedes the target system.
supersededBy	The current system is superseded by the target system.
relatedTo	The current system is related to the target system.

Appendix A (normative) Registration Authority

A.1. Registration authority (ISO 24229/RA)

A.1.1. General

For the purpose of registering conversion system codes and conversion system authority identifiers, ISO has designated a Registration Authority for ISO 24229.

The name and contact information of the Registration Authority for this document can be found at <http://www.iso.org/mara>

The ISO list identifies the Registration Authority and where the Registration Authority has published materials related to this document on the Internet.

A.1.2. Functions of the Registration Authority

It has been entrusted with the following functions with regard to the list of conversion system authorities and written language conversion systems, together with code assignments and information associated with each entry:

- 1) to add and eliminate these entries, in accordance with the rules in this document;
- 2) to advise users and ISO member bodies regarding application of such information;
- 3) to update and disseminate such information;
- 4) to maintain a reference list of such information;
- 5) to publish changes made to such information and the history of changes allowing traceability;
- 6) to administer the reservation of the codes.

Changes to the content of the list of entries becomes effective immediately upon publication.

The criteria provided in [Appendix A.3](#) to [Appendix A.4](#) shall be observed by the ISO 24229/RA for changes to the list of conversion system authorities and written language conversion systems, their code assignments and associated information, and for reservations of code elements.

A.1.3. Data provided by the Registration Authority

The RA will provide at least the following data on conversion system codes:

- the conversion system code
- the name of the conversion system and its authority
- the source language and script of the conversion system
- the target language and script of the conversion system
- the source bibliographic reference
- method identifier of the conversion system
- status of the conversion system code
- relationship with other conversion systems
- any associated remarks

A.2. Advisory group (ISO 24229/AG)

A.2.1. Principles

For the purpose of increasing transparency and making sure the operations of the registration authority (ISO 24229/RA) are carried out in accordance with guidelines provided in this document,

the registration authority will appoint an advisory group of at least 4 members and up to 12 members.

The advisory group will consist of experts knowledgeable in the fields of script or other type of conversions, information technologies, library management. The group will also contain a representative of TC 46 and may also contain representatives of organizations interested in using the conversion system codes.

A.2.2. Consensus phase and voting procedure

As a rule, the advisory group will make its decisions by consensus. If a vote is needed, the decision is approved when more than two-thirds of members vote for it.

A.3. Operations on the list of conversion system authorities and their identifiers

A.3.1. Registration of a new conversion system authority

Additions to the list of conversion system authority identifiers shall be made on upon request from a member of the ISO 24229/AG.

A conversion system authority is eligible for registration if it meets the requirements stated in [Clause 5.2](#).

The proposer is responsible for providing justification to the ISO 24229/AG regarding the eligibility of such addition.

The ISO 24229/AG will decide upon the addition, on the basis of eligibility and usage justification.

Identifiers will be allocated by the ISO 24229/AG at its discretion.

A.3.2. Marking a conversion system authority inactive

A conversion system authority can be marked inactive by ISO 24229/AG if the authority ceases to exist or no longer wishes to register its written language conversion systems.

Such inactive status shall be considered by the ISO 24229/AG upon request from the conversion system authority itself or a member of the ISO 24229/AG.

The ISO 24229/AG at its sole discretion, will determine what information will remain on the basis of practicality and continuity of usage.

A.3.3. Modification of conversion system authority identifier

Modifications of an entry within the list of conversion system authority identifiers shall be made upon the request of a member of ISO 24229/AG or the conversion system authority that manages the system.

The ISO 24229/AG will decide upon the modification, on the basis of the information received.

The previously assigned identifier will be reserved after modification for backwards-compatibility purposes.

A.3.4. Modifications to information associated with identifiers

Modifications to a registered element shall be made upon requests from a member of the ISO 24229/AG or the conversion system authority that manages the system.

:2022

A significant change of name may require the ISO 24229/AG to change the identifier concerned. The ISO 24229/AG, however, shall endeavour to maintain stability in the list of identifiers.

A.3.5. Inactive authorities

If a conversion system authority is marked inactive, the responsibility of maintaining its written language conversion system entries are assumed by ISO 24229/AG.

A.3.6. Varia authorities

The “Varia systems” conversion system authority is assigned the identifier Var. In this case, ISO 24229/AG will manage written language conversion systems with need for representation, but which do not have a clear authority.

EXAMPLE

The Wade-Giles Chinese transcription system from [A Chinese-English Dictionary](#) can be represented as Var:zho-Hani:Latn:WG-1912.

A.4. Operations on the list of written language conversion systems and their codes

A.4.1. Alterations to a written language conversion system

Alterations to a registered element shall be made only upon request of a member of ISO 24229/AG or the conversion system authority that manages the system.

A significant change of name may require the ISO 24229/AG to change the alpha code element concerned. The ISO 24229/AG, however, shall endeavor to maintain stability in the list of code elements.

A.5. Reservation of code elements

A.5.1. Introduction

Some code elements managed by ISO 24229/RA are reserved:

- for a limited period when their reservation is the result of the deprecation ([Clause 4.3](#)) or the alteration ([Appendix A.4.1](#)) of an entry;
- for an indeterminate period when the reservation is the result of the application of international law or of exceptional requests ([Appendix A.5.3](#)).

A.5.2. Period of non-allocation

Code elements that the ISO 24229/AG has altered or deleted should not be reallocated indefinitely.

A.5.3. Exceptional reservations

Code elements may be reserved, in exceptional cases, for conversion systems authorities and written language conversion systems which the ISO 24229/AG has decided not to include in the lists maintained by ISO 24229/RA, but for which an interchange or encoding requirement exists.

A.5.4. Reallocation

Before reallocating a former code element or a formerly reserved code element, the ISO 24229/AG shall consult, as appropriate, the authority or agency on whose behalf the code element was reserved, and consideration shall be given to difficulties which can arise from the reallocation.

A.5.5. List of reserved code elements

A list of reserved code elements is kept by the ISO 24229/RA.

A.6. Advice regarding use of code elements

The ISO 24229/AG is available for consultation and assistance on the use of codes for conversion system authorities and written language conversion systems.

Bibliography

- [1] ISO 9:1995, International Organization for Standardization. *Information and documentation — Transliteration of Cyrillic characters into Latin characters — Slavic and non-Slavic languages*. Second edition. 1995. Geneva. <https://www.iso.org/standard/3589.html>.
- [2] ISO 233-3, International Organization for Standardization. *Information and documentation — Transliteration of Arabic characters into Latin characters — Part 3: Persian language — Transliteration*. Second edition. Geneva. <https://www.iso.org/standard/78514.html>.
- [3] ISO 639-1, International Organization for Standardization. *Codes for the representation of names of languages — Part 1: Alpha-2 code*. First edition. Geneva. <https://www.iso.org/standard/22109.html>.
- [4] ALA-LC Romanization Tables, *ALA-LC Romanization Tables: Transliteration Schemes for Non-Roman Scripts*, The Library of Congress, 1997, <https://www.loc.gov/catdir/cpsd/roman.html>
- [5] BGN/PCGN Romanization Systems, *BGN/PCGN Romanization Systems*, National Geospatial-Intelligence Agency, <http://geonames.nga.mil/gns/html/romanization.html>
- [6] A Chinese-English Dictionary, *A Chinese-English Dictionary, Revised Ed. 2*, Herbert A. Giles, 1912.
- [7] DIN 1460:1982, *Umschrift kyrillischer Alphabete slawischer Sprachen* (Conversion of Cyrillic alphabets of Slavic languages), 1982-04
- [8] UNGEGN Working Group on Romanization Systems, *Report on the Current Status of United Nations Romanization Systems for Geographical Names*, United Nations Group of Experts on Geographical Names (UNGEGN): Working Group on Romanization Systems, <https://www.eki.ee/wgrs/>
- [9] Fifth United Nations Conference on the Standardization of Geographical Names, *Fifth United Nations Conference on the Standardization of Geographical Names*, Montreal, 1987-08-18 — 1987-08-31. Vol. I. Report of the Conference, pp. 40-41.
- [10] Unicode Transliteration Guidelines, *Unicode Transliteration Guidelines*. Available from: <https://cldr.unicode.org/index/cldr-spec/transliteration-guidelines>